ISSUE FEATURES

# SARSCENE

The Canadian Search and Rescue Magazine Online

April 2009 Vol. 18, #1

SWITCH TO
– 406 –
Goodbye 121.5

The challenges of training for SAR volunteers

What's next for the SAR*SCENE* Conference and Exposition?

Trip planning: It could save your life

2009–2010 SAR NIF Call for Proposal Results

National Volunteer Week 2009:

## Thank You SAR Volunteers!

Government of Canada
National Search and Rescue Secretariat

Gouvernement du Canada
Secrétariat national Recherche et sauvetage

Canada

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Cover photo courtesy of John Kelly

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## CRTC announces enhancements to wireless 911 services

OTTAWA-GATINEAU — On February 1, 2009, the Canadian Radio-television and Telecommunications Commission (CRTC) gave Canadian wireless service providers a one-year deadline to upgrade their 911 services. By February 1, 2010, at the latest, emergency responders must be able to determine the location of a person using a cell phone to call 911 with much greater precision.

"With more than 20 million wireless subscribers in Canada, it is imperative that emergency responders can quickly and accurately locate those who use their cell phones to call 911," said Konrad von Finckenstein, Chairman of the CRTC. "I am pleased that the industry has come forward with a technical solution, and that there is now nothing standing in the way of the implementation of enhanced 911 features. The safety and security of Canadians will be greatly improved as a result."

In an emergency situation where the caller is unable to speak or cannot identify his or her location, the ability to provide emergency responders with more accurate information of the cell phone's location can make the difference between life and death. Current 911 services rely on the position of the cell phone tower nearest to the caller. As such, emergency responders are only able to determine if a caller is in a sector within the area served by the tower, and not a specific area or location.

The enhanced features that will be implemented over the next 12 months represent a significant improvement to current wireless E911 services. Using wireless-location technology such as Global Positioning System or triangulation technology, emergency responders will be able to receive a caller's location generally within a radius of 10 to 300 metres.

Although the CRTC has given the wireless industry a one-year deadline to put the enhanced 911 features into operation, they will be available in some markets much sooner. The Commission encourages wireless service providers to offer the enhanced 911 features as soon as possible.

Wireless service providers must inform their customers of the availability, characteristics and limitations of their enhanced 911 services before they are implemented, and reiterate them on an annual basis thereafter.

In addition, any new wireless service provider entering the Canadian market after February 1, 2010, will be required to support the enhanced 911 features from the moment it launches. ■

## Winterman Marathon

*By Kim Fauteux*

On February 22, over 800 participants gathered for the first Winterman Marathon, which was held in the national capital during Winterlude, Ottawa's annual winter festival. The Marathon was an official race in the 2009 Somersault Run Series, and was organized by Somersault Promotions, in partnership with Search and Rescue (SAR) Global 1, a non-profit, volunteer-based SAR organization serving the Ottawa-Gatineau region.

"There has never been a full winter marathon before in the region, so it is a first. It went very well, much better than we expected", stated Lawrence Conway, president of SAR Global 1, who also took part in the race. He mentioned that the organizing committee was pleasantly surprised with the number of runners, since it had planned for 300 to 400 people.

*Winterman marathon runners on February 22, 2009.*

***Photo credit:*** *Arthur Smith*

On that day, people were also able to run a half marathon, 10km or 5km. Somersault also came up with the idea of having relay teams of two, four and eight in the marathon.

"From a SAR perspective, it was a great experience partnering in the event with over 100 volunteers supporting the race. It was a great opportunity to work on logistics, communications and first aid skills", explained Mr. Conway. The SAR Global 1 president also mentioned that they had raised about $5,000 for the event. He also communicated that the money will be going towards a much needed Command Vehicle.

The SAR organization is always looking for volunteers, and people who would like to lend a helping hand are welcome. People who may be interested in joining SAR Global 1 are encouraged to visit the following Web site: www.sarglobal1.com.

As SAR Global 1 is 100 percent self-funded, fundraisers like the Winterman Marathon are the "bread and butter" of the organization. "We are planning to hold the marathon again and I hope that this will become our one main fundraising event", concluded Mr. Conway. To learn more about this marathon, you can visit the following Web site: http://www.somersault.ca/eventwinterman.htm. ■

## Three Rescued by 413 Squadron

14 WING GREENWOOD PUBLIC AFFAIRS - Members of 413 (Search and Rescue) Squadron rescued three fishermen from their 42-foot vessel, Dream Seeker One, which was taking on water 44 kilometres from Seal Island, N.S., south of Yarmouth N.S. The vessel ran aground on the evening of Wednesday, January 21.

The Joint Rescue Coordination Centre in Halifax was notified and requested that a CH-149 Cormorant helicopter from 14 Wing Greenwood, N.S. be dispatched to the scene to administer assistance.

Once the Cormorant was on scene, search and rescue technicians were lowered from the helicopter to the fishing vessel and the men were quickly hoisted up into the aircraft. They were then transported to the Yarmouth airport; all were in good shape and did not require any medical attention. ■

## Exercise Silver

An Olympic security exercise, entitled Exercise Silver, was successfully held in the Vancouver and Whistler areas on February 9 to 13, 2009. This is the second of three major security drills that are held prior to the 2010 Winter Olympics. It comes after last year's Exercise Bronze, while the third drill, Exercise Gold, will be held this fall.

The exercise, which had nation-wide participation, also involved some American agencies. A total of 1,000 participants took part in the exercise, representing 150 agencies. Its themes included terrorism, seismic events and health. ■

## Exercise Western Spirit

Beginning on January 26th, 2009, thirty Canadian Rangers participated in a 34-day exercise, called Exercise Western Spirit, which saw them on a 3,400 km snowmobile trek. The exercise was designed by 4th Canadian Ranger Patrol Group to demonstrate the unit's capabilities and develop their search and rescue skills.

The Rangers, who are part-time reservists providing a military presence in remote, isolated and coastal communities of Canada, also wanted to meet Canadians along the way and inform the public about the Canadian Rangers. During the longest military snowmobile journey on record, the Rangers at times spent the night under canvas, at temperatures that sometimes plunged to -50 degrees.

The group travelled from Victoria to Kitimat, British Columbia (B.C.). They then linked up with their snowmobiles and started their journey across B.C., Alberta, Saskatchewan and Manitoba. The Rangers arrived in Churchill, Manitoba, on March 1st. ■

## National Volunteer Week

*By Alicia Visconti*

National Volunteer Week in Canada was celebrated during the week of April 19 to 25, 2009. This annual event is an opportunity to recognize those who donate time, energy and resources to make a difference in the lives of others.

National Volunteer Week was first proclaimed in 1943 as an initiative to draw the public's attention to the vital contribution of women to the war effort on the home front. In the late 1960s, the focus was revived and broadened to include all community volunteers.

Volunteers enrich communities and promote positive change. They put passion into action. For those in the National Search and Rescue (SAR) Program, it's hard to imagine any rescue or prevention delivery without volunteers. In Canada, the program functions with the aid of more than 21,000 volunteers who risk their own lives to save the lives of others. Whether on the ground, in the water, in the air or sitting at a desk, SAR volunteers are ready to commit themselves to new challenges, even when major risks are involved.

We take this opportunity to salute and thank all SAR volunteers for their dedication, commitment, and time spent in lending a helping hand in their communities. ■

*A volunteer demonstrating his medical skills.*

***Photo Credit:** Doug Allen*



# People

## SAR Global 1 General annual meeting

The Search and Rescue (SAR) Global 1 annual meeting was held on March 4, 2009.

**The following people were elected:** Lawrence Conway (President); Phil Feuerstack (Director); Grace Cameron (Director); Jack Ricou (Director); Peter Devanney (Director) and Marc DesRosiers (Director).

**The following people are returning to complete a second year of term on the board:** Terry Diduch (Director); Sandy Crosby (Director); Isabelle Robert (Director) and Adam Sherman (Director). Gerry Godsoe and Christina Pilon are stepping down after completing a full term. ■

# Awards

## Decorations for bravery

On March 16, Her Excellency the Right Honourable Michaëlle Jean, Governor General of Canada, announced the awarding of five Stars of Courage and 36 Medals of Bravery.

**Three search and rescue technicians were among those recognized:**

**Sergeant David John Cooper**, S.C., C.D., Winnipeg, Manitoba
**Sergeant Dwayne B. Guay**, S.C., C.D., Comox, British Columbia

# Awards *(continued)*

## Star of Courage

On February 16, 2007, Sergeant David Cooper and Sergeant Dwayne Guay, then master corporal, parachuted in extreme weather conditions to rescue a man who was stranded on an ice flow, in the Arctic Ocean, in the Northwest Territories. After a difficult landing due to the strong winds, the two search and rescue technicians made their way to the victim, provided first aid, and set up shelter until help arrived, some 11 hours later.

**Petty Officer 2nd Class Drew D. Dazzo**, S.C., **Elizabeth City**, North Carolina, U.S.A.

## Star of Courage

On May 7, 2007, Petty Officer 2nd Class Drew Dazzo, of the American Coast Guard, rescued an Ottawa man and two other crew members after their sailboat capsized during a storm near the North Carolina coast, in the United States. The victims were desperately hanging on to their damaged life raft in 20-metre-high waves, when Petty Officer 2nd Class Dazzo was lowered by a cable from a helicopter to help each of them into a rescue basket. He sustained a back injury during the first descent when he was violently tossed by a large wave. Petty Officer 2nd Class Dazzo displayed a very high degree of courage, determination and endurance during the rescue, which was performed in extreme weather and perilous sea conditions. ■

# The challenges of training for SAR volunteers

By Gerry Godsoe

Getting a litter wheel to casualty, SAR Global 1, Training Exercise, November 22, 2008.

*Photo credit: Monique Lalonde*

It is 3:15 a.m. on a Sunday in November in the Gatineau Hills north of Ottawa. It's cold, pitch black and everyone in the Command vehicle is using coffee to balance adrenaline and fatigue. The radio crackles, "Command, Command, this is Team Three with a priority message." "Team Three Go." "Command, we have located the missing hunter. Coordinates are: 48570 57835. He is in good shape, responsive, mobile and has no injuries. We are returning to Command." "Copy that Team Three. Good job. Command out."

Search and rescue (SAR) volunteers and professionals live to experience those moments. Happy endings represent ample compensation for all the administrative work, fundraising, promotion, recruitment, personal expense and time commitment. Whether you are the searcher who actually finds the missing person, or the treasurer who has been up late balancing the books, the sense of team accomplishment is overwhelming.

## Training Program

Training is a key SAR component. For volunteer groups, training is a continuous process filled with numerous challenges. SAR Global 1 is a volunteer group based on both the Ontario and Quebec sides of the Ottawa River. All recruits go through a 50-hour training program designed to cover the basic training requirements of the Ontario and Quebec Volunteer SAR Associations and the Emergency Response Institute curriculum. The training covers the core skills of navigation,

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communications, first aid, survival, lost person behaviour and search techniques. The final day of the program entails a full group exercise from start to finish. It is designed to integrate the newcomers and put all the procedures to the test.

The basic SAR course is only the beginning. To keep individual and group skills up, monthly training during weekends is required, supplemented by indoor and outdoor evening sessions. The Training Committee must identify priorities, select training dates months in advance, obtain permits or permission and develop scenarios and instructional units.

Ongoing training focuses on many of the same skills taught in the basic SAR course but includes extras such as, first aid courses, team leadership courses, water/ice rescue, low angle rescue, search management and other specialties. In 2008, SAR Global 1 volunteers participated in almost 2,800 hours of training. Still, it is never enough to get the new folks fully confident and allow long-time members to review their knowledge and share their skills and experience with newcomers.

One of the biggest challenges for volunteer SAR training committees is the delivery of realistic training that will make volunteers want to come out for training on their days (or evenings) off, when they could be spending time with family, friends or getting caught up on household chores. Those who stay with SAR say they learn something new every time they get called out on a search or participate in training.

Another training challenge is to conduct inter-agency and inter-group training. SAR Global 1 straddles the Ontario-Quebec border and numerous police jurisdictions. It is also within close driving distance of several other volunteer SAR groups. It is very difficult to have SAR groups cross provincial lines even though the missing person(s) may have done so. Depending on the tasking agency, three searchers on a trail may be doing: a "Type 1 Search", "A Hasty Search" or a "Track Crawl". Even the basics of map reading may be different. Will that be UTM or MGRS? How many characters would you like in your map coordinates sir?

### Joint exercise

On January 19, 2009, the Ottawa Police Service conducted a very successful large training event in the Marlborough Forest near Ottawa involving three volunteer SAR groups: Rideau Regional SAR, the Ottawa Valley SAR Dog Association and SAR Global 1. The exercise scenario was the case of a missing eight-year-old boy lost in an area of scrub growth riddled with trails.

Approximately 50 Ottawa Police officers and 20 volunteers arrived early in the morning on a snowy rural side road. The police command and support vehicles were already in place and the search managers were hard at work planning. One of the major objectives for the day was to allow new search managers to gain the experience of being responsible for all aspects of a search.

As with military operations, planning and coordinating 70 people is a big job. The theory of the Incident Command System that clarifies roles and responsibilities helps search managers understand how things are supposed to work. However, there is no substitute for the hands-on experience and pressure of realistic training.

After signing in, six teams were assembled, including police service members and volunteers. One of the first tasks for all participants was to set up a large tent to act as a briefing area. The SAR Coordinator, Sergeant Roy Lalonde, then provided a briefing and short review of common GPS procedures. After the general briefing, team leaders briefed their own teams on their assignments and did a final equipment and radio check. Then off they went on snowshoes looking for clues and the missing person.

The six teams covered a lot of terrain and after several hours of trudging through deep snow, a clue – in the form of a faint human voice – was found. The searching phase, usually the longest and most difficult, was over. The boy was accessed, medical attention was quickly provided and the evacuation began. The difficulty of moving an injured

*The briefing tent is being set up for the joint exercise.*

***Photo credit:** Ottawa Police Service*

*It was the ideal kind of weather for a training exercise.*

**Photo credit:** *Ottawa Police Service*

or hypothermic person through the woods using human muscle power and the value of mechanized transport in the form of a snowmobile were once again demonstrated. On the way back to the Command Post, the teams were tasked to conduct other missions involving navigation, searching and communications skills.

Throughout this exercise, police service members and volunteers dealt with the same type of challenges including: information management, organizational capabilities, resource constraints, communications, difficult terrain and weather conditions, as well as command and control issues.

Both professionals and volunteers learned a great deal and realized that each has different strengths. For example, police service members have more experience in investigating missing person cases, while volunteers may be more at ease doing night navigation in the woods. Inter-group training opportunities such as this one are invaluable. Arriving at a search site in the middle of the night is not the time to meet the rest of your extended team for the first time or start to learn about different procedures.

Of course, there are also the intangibles that come with training and experience but can not be taught. How do you train volunteers to be willing to get out of bed and drive for two hours in a snow storm to look for a missing snowshoer? How do you teach them to be able to cope with finding a deceased person or comfort a distraught parent? Nevertheless, frequent, realistic and difficult training is an essential part of the development of SAR volunteer groups. ■

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*Gerry Godsoe lives in Ottawa. He has gained outdoor experience through scouting, camping and whitewater canoeing. He is a Search Manager and Training Director with Search and Rescue Global 1 (www.sarglobal1.ca).*

# What's next for the SARSCENE Conference and Exposition?

By Kim Fauteux

After a very successful SAR*SCENE* 2008, Canada's premier search and rescue (SAR) conference and exposition, the National Search and Rescue Secretariat (NSS) has decided to postpone the 2009 edition, and resume in the fall of 2010. The 2010 conference will be held in Regina, Saskatchewan, and co-hosted by the Search and Rescue Saskatchewan Association of Volunteers (SARSAV) and the Ministry of Corrections, Public Safety and Policing, Government of Saskatchewan.

One may ask why such a successful and well attended event is being postponed, but as the NSS' Executive Director Géraldine Underdown explained, the conference needed updating.

*Géraldine Underdown, NSS Executive Director.*

***Photo Credit:** Manon Langlois*

"The SAR*SCENE* Conference and Expo is one of the main vehicles that supports and brings together the members of the National SAR Program (NSP). In that respect and after 17 continuous years, it is now time to pause and look at the format and content of the conference and exposition, to ensure it continues to deliver on its mandate", she said.

The Executive Director, who has been with the NSS for two years, stated that feedback received from the SAR community indicated the time was right to revamp the event and ensure that all participants receive top-quality value for the time and expense they invest in attending SAR*SCENE*.

## Broad review

The conference, which has been an annual event since its beginning, will undergo a broad review. The NSS and its SAR partners will examine many aspects of SAR*SCENE*, including content selection and the NSS Awards Program.

"The award and certificates will not be given out this year because we are revamping the Awards Program, and the conference is the venue at which they are presented and recipients honoured. We are looking for engagement from our SAR partners to make it more reflective of the SAR reality of today," explained Mrs. Underdown. "The Awards Program was created to honour leaders in the field of search and rescue across Canada and will continue to do so in years to come."

The NSS will also look at making use of communication technologies in order to bring the SAR community together and move the conference and the NSP forward.

## Steering Committee

In order for SAR partners to become more involved, the NSS established a steering committee, chaired by the NSS and co-chaired by the co-hosts of the 2010 conference. Federal partners, the Canadian Coast Guard Auxiliary, the Civil Air Search and Rescue Association, the Search and Rescue Volunteer Association of Canada and other key senior SAR collaborators are also members of the committee. Ground SAR will be represented by members of the police force who are the SAR responders in provinces and territories.

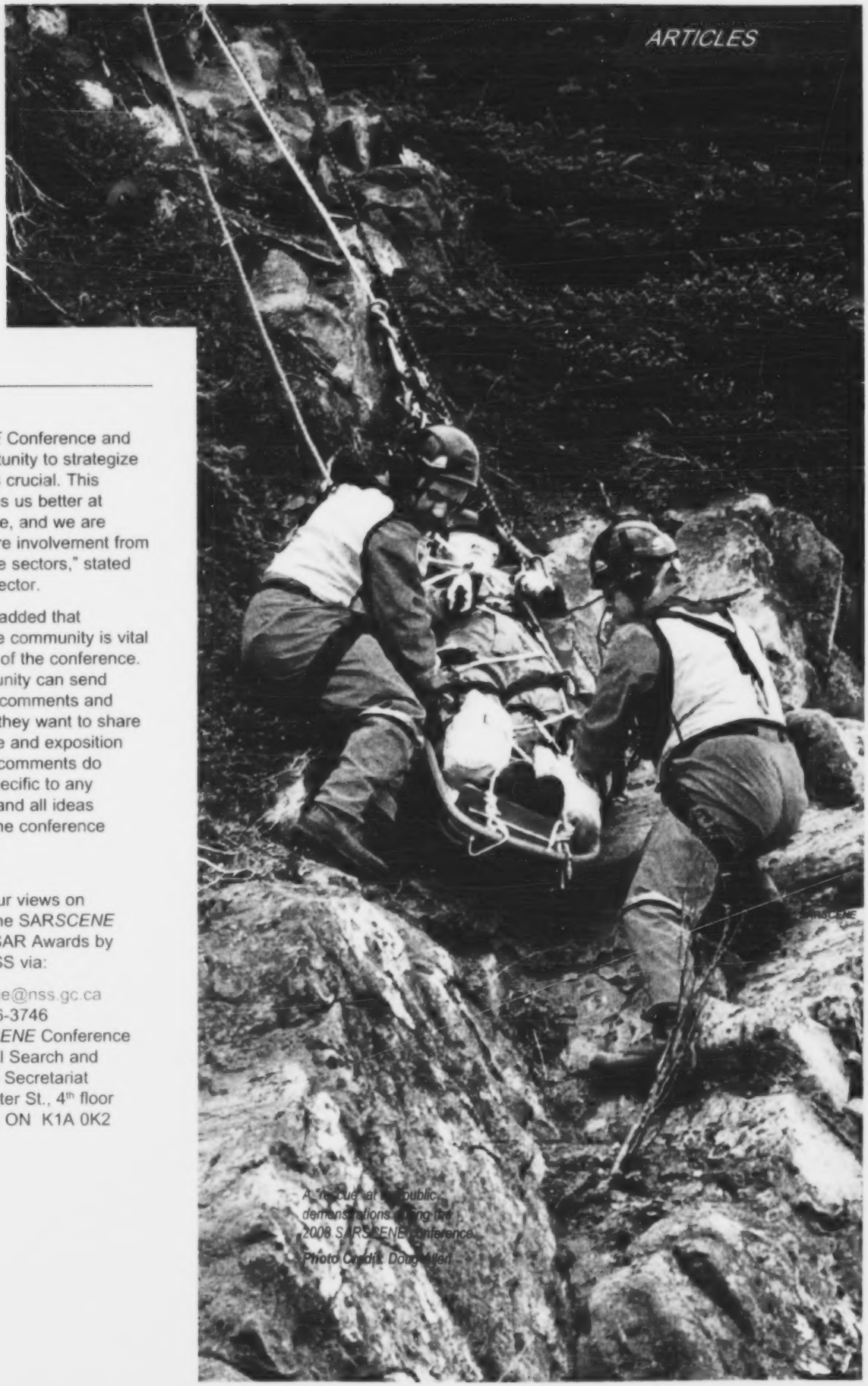
The committee will provide strategic advice on the conference's approach, themes and content, as well as guidance related to the NSS developing a multi-year plan for the event. It will also concentrate on increasing cross-jurisdiction integration in support of the NSP to ensure the continuing progress of seamless SAR service delivery across Canada. The NSS intends to resume holding the event annually after 2010.

"The SAR*SCENE* Conference and Expo is an opportunity to strategize together, which is crucial. This preparation makes us better at search and rescue, and we are hoping to get more involvement from the air and marine sectors," stated the Executive Director.

Mrs. Underdown added that feedback from the community is vital to the revamping of the conference. "The SAR community can send us any thoughts, comments and suggestions that they want to share on the conference and exposition in general. Their comments do not have to be specific to any one conference, and all ideas for the future of the conference are welcome." ■

You can send your views on how to improve the SAR*SCENE* conference and SAR Awards by contacting the NSS via:

E-mail: sarscene@nss.gc.ca
Fax: 613-996-3746
Mail: SAR*SCENE* Conference
National Search and
Rescue Secretariat
275 Slater St., 4th floor
Ottawa, ON K1A 0K2



*A rescue at the public demonstrations during the 2008 SARSCENE conference. Photo Credit: Doug Allen*

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Ottawa, ON K1A 0K2

*A "rescue" at the public demonstrations during the 2008 SAR*SCENE* conference.*

***Photo Credit:** Doug Allen*

# Featured SAR volunteer association
# Kent Harrison Search and Rescue

By Neil Brewer

From its origins in the civil defence movement in the late 1950s, Kent Harrison Search and Rescue(SAR) remained a low-profile group of committed local community volunteers until the late 1980s. The establishment of the British Columbia Provincial Emergency Program provided a more defined structure for British Columbia search and rescue (B.C. SAR) groups by introducing standardized training and providing expense reimbursements. By working under this new structure and accessing grants, Kent Harrison SAR grew and substantially improved its capabilities. The group was able to respond to the demand placed upon it with increasing incident volumes and what can only be described as "a higher expectation." Since this paradigm shift, the annual incident volume has quadrupled.

Kent Harrison SAR faces a continuous challenge in maintaining a resource comprised of unpaid volunteers within a small community. Situated in the Fraser Valley, 150 km east of Vancouver, Agassiz (District of Kent) and Harrison Hot Springs are home to approximately 7,500 residents, many of whom are retirees. Volunteer recruitment and retention are a constant pressure. Since the SAR group is the third-busiest in the province, responding to 60 incidents per year with an active roster of only 15 volunteers means that jobs and family commitments are often compromised.

## Funding



The group has been fortunate to gain access to significant funding through various grant applications. The first large grant came in 1993 when the team was successful in obtaining a boat and rescue truck through the National Search and Rescue Secretariat's New Initiatives Fund (NIF). The $175,000 project was the first one of its kind to be awarded to a B.C. recipient. Since then, several projects have been completed with contributions from NIF, BC Gaming (Gaming Policy and Enforcement Branch) and various local service organizations.

*A mass briefing in June 2008.*

***Photo Credit:*** *Neil Brewer*

In 2006, the eastern Fraser Valley SAR groups were approached by the Fraser Valley Regional District with a proposal to provide ongoing annual funding originating from municipal taxation revenue. This has taken a lot of pressure off the groups, who can now be assured that their fixed costs will be addressed without having to be concerned with annual fundraising demands. SAR volunteers are spending so many unpaid hours on incident responses, training, equipment maintenance and administration that running "bake sales" as well is totally unrealistic. After many years of growth, Kent Harrison SAR is now planning on building a more permanent base. The local municipality (District of Kent) has been very supportive and has provided several temporary solutions, but the value of the team's assets and the need for training space have created the need for a purpose-built SAR hall. Plans are currently underway for funding and project development. The goal is to have the project completed in three years.

## Mutual Assistance

*A subject being prepared for evacuation by Class D helicopter operation, in April 2006.*

***Photo Credit:*** *Josef Seyerd*

The last 10 years have seen a big improvement in the way B.C. SAR volunteer groups work together in what is referred to as "mutual assistance". In fact, the process is virtually seamless and regularly sees as many as 15 SAR groups working together as one. A combination of Incident Command System and consistent training standards, along with an open policy of sharing ideas, have created a spirit of

camaraderie that grows stronger every year. The level of confidence shown by our police and ambulance partner agencies has also helped to build a strong, competent and capable SAR infrastructure. The regional HETS (Class 'D' helicopter evacuation) team that was initiated by Chilliwack SAR, including members from several other neighbouring SAR groups, is a good example of this solid infrastructure.

### SAR equipment

Kent Harrison SAR serves the Agassiz RCMP detachment, an area of 2,500 sq km. While it is a smaller area in comparison to many SAR groups in B.C., the area contains a wide range of hazards from rugged alpine (more than 2,000m) and whitewater rivers, to the 250 sq km of Harrison Lake. This wilderness area is easily accessed by a large urban population in the Fraser Valley and greater Vancouver, making it a "playground" for people who are often not prepared for the risks encountered. The team's risk assessment outlines a wide variety of hazards and vulnerabilities, which have driven the need for specialized equipment. A 27-foot turbo-diesel jet and a 20-foot centre-console boat look after Harrison Lake, while two modified (shallow water intake grates) SeaDoo GTX PWCs are used primarily on the Fraser River. Two swiftwater rafts and 14 dry suit kits cater to the Chehalis River. A 12-foot"Logic" polypropylene boat is used for the myriad of small lakes. A 4 x 4 crew-cab rescue truck carries technical rope rescue and avalanche equipment and litters. Two modified Yamaha Rhino side-by-side all-terrain vehicles are proving very effective on ground searches, especially on decommissioned logging roads. A 4 x 4 command vehicle and a 20-foot tandem axle logistics trailer support most of the incidents and often travel to other areas in support of large ground searches. The 20-foot logistics trailer is the newest asset and was developed with the assistance of a NIF project in 2007. With its 12kW generator, washroom and large fuel tanks, the trailer provides a valuable resource. The electrical system can power up to three command vehicles and carries enough fuel for several days of operation.

*An ATV accident, which occurred in June 2003, on Harrison West Forest Service Road.*

***Photo Credit:*** *Neil Brewer*

*The Spirit of Harrison on Harrison Lake.*

***Photo Credit:*** *Neil Brewer*

Ground searches are managed using Martin Colwell's "Incident Commander Pro" software on seven networked computers and four printers. An automatic position reporting system is proving very effective using OziFleet software through the team's ICOM radios with microphones and GPS. Mapping covering the southwest quadrant of B.C. is provided through a combination of several software programs. Ultimately, the plan is to integrate more digital mapping data into the geographic information system function in "Incident Commander Pro". A networked ceiling-mounted XVGA DLP projector in the command vehicle is used to display data, while an 18-inch by 24-inch colour printer can quickly produce hard copies of maps.

It takes a very dedicated and cohesive group of volunteers to provide and maintain this service. With an average of one incident per week, performing searches, rescues, body recoveries and evidence searches, this small team has been referred to as "The little SAR group that could". ■

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*Neil Brewer is a SAR manager and 18-year member of Kent Harrison SAR. He is currently a Director-at-large of the BC Search and Rescue Association (BCSARA), chairing the Grant Committee. (www.khsar.com; www.bcsara.ca)*

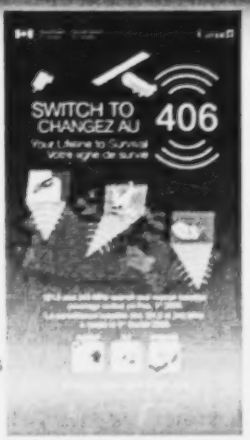
# Goodbye, 121.5:

## A look at COSPAS-SARSAT's *Switch to 406* post-February 1, 2009

By Carole Smith, NSS

### A new era begins...

On February 1, 2009, search and rescue satellite alerting across the globe entered a new era. After twenty-seven years of monitoring121.5 MHz emergency radio beacon signals, the International Satellite System for Search and Rescue, COSPAS-SARSAT, completed its transition to the exclusive processing of digital 406 MHz signals. Just after midnight, Universal Coordinated Time on February 1st, codes transmitted to the COSPAS-SARSAT satellites automatically shut down the 121.5 MHz and related 243 MHz instrumentation.




Today, only marine Emergency Position-Indicating Radio Beacons (EPIRBs), Personal Locator Beacons (PLBs), and aircraft Emergency Locator Transmitters (ELTs) that transmit on a primary frequency of 406 MHz continue to benefit from worldwide search and rescue (SAR) satellite surveillance.

COSPAS-SARSAT chose February 1, 2009 as the termination date for 121.5 MHz satellite coverage over eight years ago, in October 2000. By then, the limitations of 121.5 MHz analog beacons had become increasingly apparent relatively to their more advanced, accurate, and capable 406 MHz cousins. As a result, safety-oriented organizations, such as the International Maritime Organization and the International Civil Aviation Organization, recommended that 406 MHz technology be fully embraced. After the February 2009 phase-out date was set, COSPAS-SARSAT program participants concentrated their efforts, and their financial investments, on the long-term support and enhancement of the 406 MHz system.

### Canada's aviation community and the *Switch to 406*

While users of maritime and land-based emergency beacons in Canada have already adopted 406 MHz technology, the majority of Canadian airplanes and helicopters that are required to carry a distress beacon (approximately 24,100) are still equipped with ELTs that function on 121.5 MHz only. While Transport Canada is currently engaged in a regulatory initiative to mandate the use of 406 MHz ELTs or an acceptable equivalent, the *"Switch to 406"* is still voluntary for private, state, and commercial aircraft. Although the United States has not yet indicated that it will require 406 MHz ELTs, several other countries, including Australia and New Zealand, have made them mandatory.

As of February 28, 2009, only about 10 percent of Canadian aircraft had registered a 406 MHz ELT with the Canadian Beacon Registry. However, registrations are on the rise, and this number is expected to double by April of this year. In fact, many more 406 MHz ELTs are believed to be in service than what appears in the Registry. Since the old 121.5 MHz ELTs did not require registration – they were analog and could not transmit a unique coded signal – it is presumed that some aircraft owners and operators are simply unaware of the requirement to register their 406 MHz ELTs. Registration is a critical step in enabling an effective SAR response, since the Registry collects emergency contact information for the aircraft owner/operator, as well as details such as the colour and configuration of the aircraft. This information is invaluable to the coordination and time sensitivity of a successful search effort.

### Challenges for air SAR

SAR operations for missing and downed aircraft continue to be managed as usual by the Canadian Forces. However, the current lack of satellite detection and position information for incidents involving 121.5 MHz-equipped aircraft is a potential concern with respect to the safety and efficiency of SAR missions. Without the aid of satellite-derived alerting and location data, missions may be prolonged and rely more heavily on visual search techniques. These effects are also anticipated by the volunteers of the Civil Air Search and Rescue Association, who assist the Canadian Forces in carrying out its aeronautical SAR mandate.

# Goodbye, 121.5:

## A look at COSPAS-SARSAT's *Switch to 406* post-February 1, 2009

By Carole Smith, NSS

### A new era begins...

On February 1, 2009, search and rescue satellite alerting across the globe entered a new era. After twenty-seven years of monitoring121.5 MHz emergency radio beacon signals, the International Satellite System for Search and Rescue, COSPAS-SARSAT, com, 'eted its transition to the exclusive processing of digital 406 MHz signals. Just after midnight, Universal Coordinated Time on February 1st, codes transmitted to the COSPAS-SARSAT satellites automatically shut down the 121.5 MHz and related 243 MHz instrumentation.

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Since 121.5 MHz is also the international voice distress frequency for aviation, it continues to be monitored by NAV CANADA's air traffic control towers and flight service stations during their hours of operation. Many overflying aircraft, particularly airliners, also monitor 121.5 MHz as a courtesy to their fellow aviators. Any ELT signals overheard on this frequency (outside of the first five minutes of every hour, which are set aside for ELT testing) are reported to the appropriate Joint Rescue Coordination Centre as a possible distress alert.

This practice provides an important safety net in the absence of satellite monitoring, and all pilots are encouraged to maintain a listening watch on 121.5 MHz. Unfortunately, these pilot reports are typically far less precise than the coordinates formerly generated by COSPAS-SARSAT's 121.5 system. The maximum theoretical range of a 121.5 MHz beacon heard by an airliner flying at 37,000 feet could be 200 nautical miles or more, putting the ELT somewhere within a 430,000 square kilometre search area. Additionally, unlike a digital 406 MHz ELT, an anonymous 121.5 MHz signal provides no useful information to SAR authorities as to who might be in distress. On March 14, 2009, various high-flying aircraft reported an ELT signal somewhere within 100 nautical miles of Fredericton, New Brunswick. It was only when a local flight plan expired a half-hour later that the signal was confirmed to be an actual distress transmission, and the probable identity of the aircraft known. Notwithstanding, the 121.5 MHz ELT was instrumental in leading a Hercules aircraft and a Cormorant helicopter from 413 Squadron to the densely-forested crash site, located approximately 25 nautical miles north of Fredericton. The three occupants of the aircraft were treated by SAR technicians, and transported to medical aid. This case also underlines the added value of filing a flight plan.

Finally, the SAR system also expects to be challenged by the impending decommissioning and disposal of thousands of 121.5 MHz ELTs, as they are replaced by 406 MHz units. Failure to remove batteries and disable electronics may generate unnecessary searches when these old ELTs are discovered by curious children (or adults with a child-like sense of curiosity), left to corrode on workshop benches, or rattled around in the back of a garbage truck.

Overall, it seems clear that the pilots and passengers served by air SAR in Canada will benefit from a more rapid uptake of 406 MHz technology by the aviation community.

### Promoting the *Switch to 406*

As reported in previous issues of SAR*SCENE* magazine, the National Search and Rescue Secretariat (NSS) has been leading efforts since the fall of 2007 to communicate and promote the *"Switch to 406"* within the aviation community.

Working in partnership with the Canadian Forces and Transport Canada, the NSS has:

- ensured that Canada's 91,000 licensed pilots and aircraft maintenance engineers received a briefing package on the *Switch to 406;*
- staffed exhibits and distributed information at major Canadian aviation events;
- made presentations to regional aircraft maintenance conferences and other special forums across Canada;
- provided letters and articles on the *Switch to 406* to newspapers and magazines;
- developed fact sheets and communication materials describing the change to the COSPAS-SARSAT system, and practical information on how to adapt;
- briefed SAR responders on the status and implications of the *Switch to 406;*
- updated key flight publications affected by the change in SAR satellite monitoring;
- liaised with manufacturers and distributors to monitor ELT supply and demand; and
- researched statistics on ELT performance and false alerts.

### Continued momentum

Although the COSPAS-SARSAT system has completed its journey to the digital era, the NSS will continue to provide practical information about this remarkable humanitarian system and the 406 MHz emergency beacons it supports.

A special focus on the aviation community is being maintained through 2009–2010, with specific emphasis on the selection, programming, registration, and testing of 406 MHz ELTs. The reduction of false alerts will also be highlighted, including the proper decommissioning procedures for the thousands of 121.5 MHz units that will likely be coming out of service over the next 12 to 24 months.

The broader community of 406 MHz beacon users also figures prominently in the Secretariat's plans for 2009–2010. New materials on the use and registration of marine and land beacons will be developed and promoted to ensure that the benefits of the COSPAS-SARSAT system continue to be accessed to the fullest by all Canadians.

Stay tuned to SAR*SCENE* magazine and www.nss-snrs.gc.ca for additional updates on the *Switch to 406* communications strategy. ■

# True Stories of Rescue and Survival: Canada's Unknown Heroes

By Jeremy Derksen / jderksen@shaw.ca

Pop quiz, hotshot. A lone pilot is stranded in a blizzard in the Arctic after an emergency landing. It's freezing cold. Winds are raging at over 48 knots and visibility is near zero. If you parachute in to rescue him, you'll be risking not only your own life but your rookie partner's as well. What do you do?

Action movie fans may recognize the loose paraphrasing of the preceding paragraph. It's borrowed from the 1994 film "Speed." While that reference may seem odd, the Keanu Reeves blockbuster and Carolyn Matthews' *True Stories of Rescue and Survival: Canada's Unknown Heroes* share a common thread. In both, rescuers are forced to make split-second decisions in life or death situations, all the while treading on a very thin margin of error.

In a society where media has cheapened the term "bravery," Matthews makes an argument for redefining our society's heroes. Athletes, musicians and movie stars are among North America's most common icons, yet often they are undeserving. At best, they are less worthy standard bearers than those who, toiling in obscurity, put themselves in harm's way on behalf of others: search and rescue (SAR) technicians, soldiers, coast guard, police officers, volunteer rescuers and in some cases, ordinary civilians. For many of them, "hero" is an uncomfortable term. The phrase, "in the line of duty", may be cliché, but it embodies their humble ethic. Yet, to accept that explanation is to simplify the truth.

Matthews presents 10 accounts of high-risk rescues, with commentary from the rescuers and the people that have been rescued, which demonstrate the unflinching bravery of SAR personnel. In precarious mountain rescue airlifts, treacherous sea salvation efforts and untiring backcountry searches, the rescuers in these tales assume a heavy burden of responsibility.

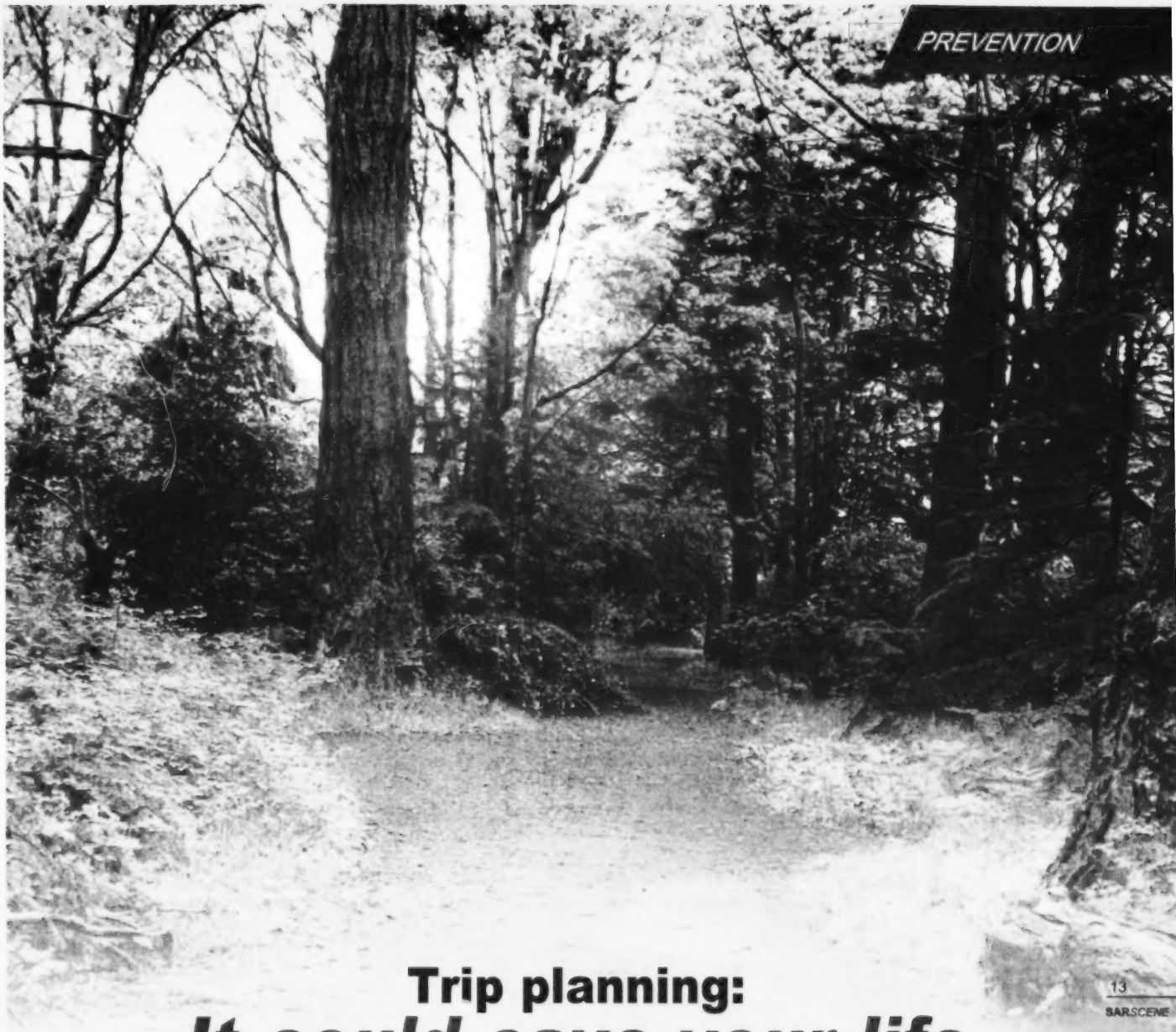
In chronicling each story Matthews deftly extracts the key details, capturing the urgency and dangerousness of each situation. In "Jumping into the Abyss," rescuers risk altitude sickness before skydiving into a rocky canyon to extract plane crash survivors. When an eight-year-old boy gets lost in an overgrown forest in "A Child is the World," police and volunteer searchers spend exhausting 12-hour shifts combing the woods. In "A Navy Diver in the Afghan Desert," an explosives expert sweeps for landmines in enemy territory, exposed to sniper fire as he works to clear the area for peacekeeping troops. Yes, taking extreme risks and logging long, difficult hours is the job, but this is exactly why the job is so extraordinary and the people who do it exceptional.

Beyond a showcase for unsung bravery, the book also acts as a valuable resource. Each of the 10 accounts in *True Stories* is a concise case study that instructs as it entertains. Arguably, real life experience is the best teacher, followed closely by simulation exercises. Next to hands-on practice, learning about exceptional situations from expert practitioners can be a highly effective training tool.

Matthews populates each story with helpful sidebars that serve as useful reference material, while acting as primers on technical details like rock climbing terminology, contents of a SAR tech's survival bag, measuring distance in knots and using GPS. As each rescue unfolds, the unique technical details of the situation challenge a rescuer's ability to assess risks, think clearly and take action quickly.

Ultimately, the book poses a fundamental question to every rescuer by laying bare the potential dangers inherent in the SAR field. How far are you willing to go; are you willing to risk your life for the sake of others? For rescuers, the answer to that question is one of the most important they will ever make. Those who answer in the affirmative stand to gain a deeper understanding of themselves, insight into the nature of true strength and a greater sense of career fulfillment. The heroes in Matthews' tales are living proof. ■

*Jeremy Derksen suffered hypothermia while backcountry skiing in Yoho National Park, BC, in his early 20s. This led to an abiding interest in first aid and wilderness rescue. He is a five-year member of the Canadian Ski Patrol System and has backcountry experience across western Canada. Ski editor at Vue Weekly Magazine, he has published in Unlimited Magazine, the Edmonton Journal, Calgary Herald and Regina Leader-Post, and appeared as a ski industry expert on CBC.*



# Trip planning:
# *It could save your life*

*By NSS staff*

*In support of the National Search and Rescue Program, the National Search and Rescue Secretariat is pleased to provide you with this information piece, which can be used in your public education, outreach and prevention activities.*

It's the beginning of May, it's nice out and you have a few days off work. You decide to take a trip with a few friends. You all agree that going hiking for a few days would be the perfect way to unwind and leave the stress of every day life behind. You know where you want to go; you've printed maps, checked the batteries in your GPS and have everything you need for your little getaway. You think you're not forgetting anything but you may have overlooked one very important thing – to leave a plan of your trip with a friend or family member.

## SAR prevention

Trip planning is one of the basic elements of search and rescue prevention. The problem is that many first-timers do not know about it and many avid recreationalists do not use it. Although it is not mandatory for every excursion, if you're going to be flying, boating, hiking or skiing, completing a trip plan could save your life.

While new technologies instill a sense of security (real or perceived), they are not a guarantee of distress alerting and timely rescue. Trip plans, once created and left with someone who could notify the authorities if you do not return, can help save lives by focusing search efforts and minimizing response time.

Trip plans do not have to be complicated. There are a number of tools available to help you document the details of your trip and equipment. Whether you fill out a complete trip plan in advance or leave a note with a friend, the knowledge about your intended route, equipment and experience can be crucial for investigators and search managers.

AdventureSmart, which was created through a National Search and Rescue Secretariat New Initiatives Fund project by the British Columbia Provincial Emergency Program, aims to increase awareness, educate people about potential risks and outline how to enjoy the outdoors safely. Their focus is on the three Ts – training, trip planning and the 10 essentials for every outdoor activity.

## Be smart; do not ignore warning signs

Some people are the adventurous type. They seek thrills and do not hesitate to try something new or venture where they have not been before. Although it is surely fun to try new things, we must all be aware of the danger that venturing into closed or out-of-bounds areas entail. When you see a warning sign, take it seriously and stay away; it could be the difference between an enjoyable outing and a one-way trip.

Here are a few outdoor travel tips, provided by AdventureSmart:

- Be prepared for your chosen recreation – being fit enough to go the distance takes physical preparation. Stick to your turnaround time. Take the proper equipment, have a trip plan and use reference and guide books.
- Always carry the essentials – if necessary, be ready to stay overnight.
- Complete a trip plan and leave it with a friend – the trip plan explains your destination, the route you are taking, who is in the group and your return time. If you do not return as planned, the friend with whom you have left the trip plan can give the form to the police to initiate a search.
- Never hike alone – hike with a group and keep together. Travel at the speed of the slowest person. If a person becomes separated by going ahead or falling behind, he or she is more likely to become lost.
- Do not panic – maintain a positive mental attitude if you become lost. Being lost is not dangerous if you are prepared.
- Stay where you are – people who carry on after they become lost usually get further from the trail and further from people who are looking for them. Going downhill also often leads to natural drainage gullies, which typically have very thick bush, expansive cliffs and waterfalls, making travelling and searching more difficult.
- Use signaling devices – blowing a whistle, lighting a fire and staying visible will help searchers find you. Help searchers find you even if you are embarrassed or afraid. Remember that animals will not be attracted to your signals. Searchers may also use planes or helicopters – make yourself visible to them.
- Build or seek shelter – protect yourself from the rain, wind and excessive sun. Be as comfortable as possible, but when it is daylight, make sure that you are visible to searchers in helicopters or planes.
- The most common mistake – an individual's belief that "it could never happen to me." This is summed up as EGO. By being prepared, you can enjoy your trip outdoors regardless of what nature throws at you.

For further information on trip safety and to find examples of activity plans, whether it's your first or your hundredth time out, you may refer to the following Web sites:
http://www.sarvac.ca/Survival/TripPlans/tabid/182/language/en-US/Default.aspx;

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http://www.adventuresmart.ca/trip_safety/index.php

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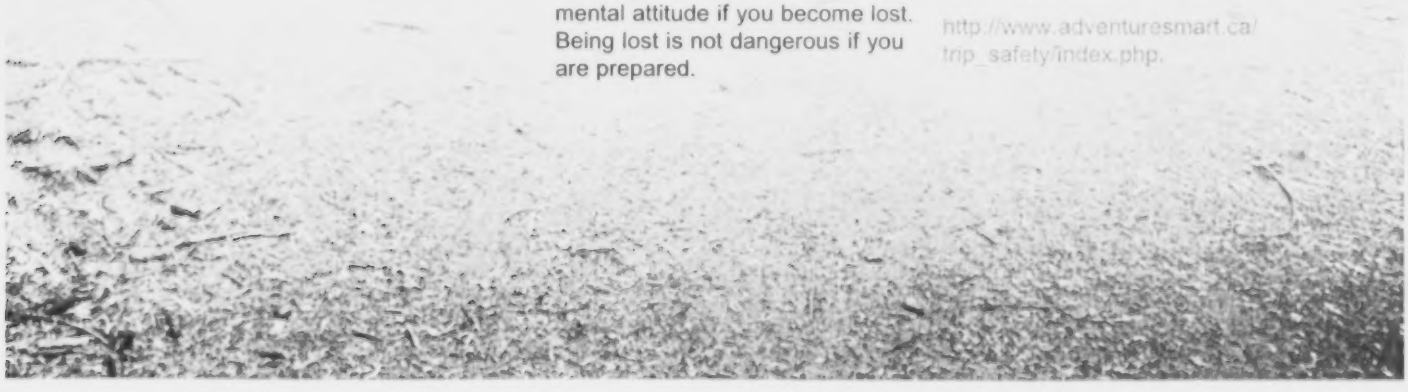


# 2009–2010 SAR NIF Call for Proposal Results

*by NSS staff*

As a result of the Search and Rescue New Initiatives Fund (SAR NIF) 2009–2010 Call for Proposals, the Lead Minister for Search and Rescue has approved the Merit List composed of 13 projects related to SAR prevention and response that will support the priorities of the National Search and Rescue Program.

**Here is a summary of the 13 projects:**

1. The RCMP prevention project entitled *SAVED! SAUVÉ! TV Series, Website, PSA's & Case Study Resources*, which will have a duration of three years, will produce a documentary television series to showcase the many facets of search and rescue (SAR) across Canada.

2. The Manitoba response project entitled *Development of Ground SAR Capability - Winnipeg SAR*, which will have a duration of one year, will enhance SAR training in Manitoba through the hosting of a Provincial Multi-Agency Training Exercise within the City of Winnipeg and the purchase of equipment.

3. The Transport Canada R&D prevention project entitled *Thermal Requirements for Surviving a Mass Rescue Incident in the Arctic*, which will have a duration of three years, will establish thermal protection performance criteria and test methods for the personal and group survival equipment that the International Maritime Organization has specified to be necessary for Safety of Life at Sea (SOLAS) passenger vessels operating in the Arctic.

4. The Department of National Defence R&D response project entitled *MEOSAR Repeater Development for GPS III Satellites*, which will have a duration of three years, will develop a Medium Earth Orbit Search and Rescue (MEOSAR) repeater that meets the unique specifications and requirements of the USAF GPS III Satellites.

5. The Transport Canada prevention project entitled *Electronic Simulator Distance Education Program for Stability Management on Inshore Fishing Vessels*, which will have a duration of two years, will complete the development and validation of the electronic simulator e-learning program for stability management on inshore fishing vessels. The final product will be a distance education program, produced in French and English, using multi-media materials and electronic simulations of vessel operations and fishing activities in different fleets in various regions of Canada.

6. The Department of Fisheries and Oceans response project entitled *Halifax SAR Region Major Maritime Disaster Plan Training*, which will have a duration of one year, will plan and execute a two-day training/ table top exercise, in a location near the provincial boundaries of P.E.I., N.B. and N.S., to improve interagency command and control between provincial and federal agencies in the event of a major maritime disaster.

7. The RCMP prevention project entitled *Smart Boaters - Prevention in the First Degree*, which will have a duration of three years, will develop a communication strategy designed to help change recreational boating behaviors on Canada's waterways. A comprehensive Web site will be developed to house and distribute boating safety materials and information.

8. The Department of Fisheries and Oceans response project entitled *CCG Rescue Diver Training Tank*, which will have a duration of one year, will deliver a shore-based diver training tank and acquire dedicated life support and protective equipment for students utilizing the diver training tank.

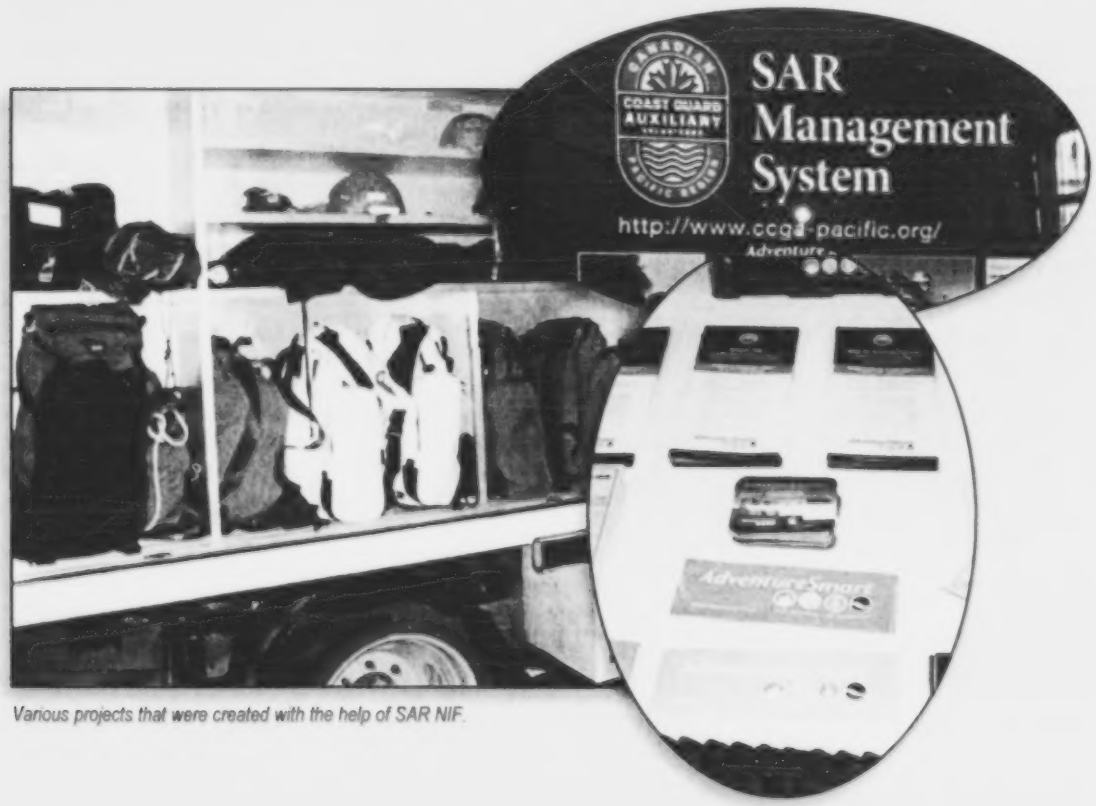
9. The Environment Canada R&D response project entitled *Coupled Lake-Atmosphere Forecasting in the Great Lakes*, which will have a duration of three years, will develop a prototype coupled lake-atmosphere system for improved operational weather and lake state prediction in the Great Lakes.

10. The Transport Canada prevention project entitled *Fishing Safety Mentoring Initiative*, which will have a duration of three years, will design and deliver safety programs and information to fishermen, for their industry. The project will train experienced fishermen as Safety Mentors, who will work one on one with owners, skippers and crew to tailor vessel specific safety procedures using a multi-media fishing vessel safety toolbox.

11. The Environment Canada prevention project entitled *Weatheradio for Schools, Girl Guides and Scouts*, which will have a duration of three years, will equip schools under the Meteorological Service of Canada broadcast signal with a Weatheradio receiver. This will allow schools, Scouts and Girl Guide leaders to monitor the broadcast for weather information, including warnings.

12. The Department of Fisheries and Oceans response project entitled *Quebec Municipalities: Our SAR Partners*, which will have a duration of three years, will develop partnership and cooperation agreements between the Canadian Coast Guard Auxiliary – Quebec Region and the municipalities it services to improve SAR response capability.

13. The Department of National Defence R&D response project entitled *Synthetic Aperture Radar for SAR North*, which will have a duration of three years, will examine the use of high resolution RADARSAT-2 and airborne Synthetic Aperture Radar imagery for the detection of crashed aircraft in flat regions of the Canadian tundra. The aim is to assist SAR when Emergency Locator Transmitter signals are not available.




*Various projects that were created with the help of SAR NIF.*